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EXAMINER

KASZTEJNA, MATTHEW JOHN

ART UNIT PAPER NUMBER

3739

DATE MAILED: 12/28/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

**Office Action Summary**

Application No.

10/673,123

Applicant(s)

MAEDA ET AL.

Examiner

Matthew J Kasztejna

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 26 September 2003.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-22 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-6, 8-11, 13-15, 17, 19, 21 and 22 is/are rejected.
- 7) ☒ Claim(s) 7, 12, 16, 18 and 20 is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 26 September 2003 is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- |   |   |
|---|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)   | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)  | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152)             |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)<br>Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____  |

## **DETAILED ACTION**

### ***Drawings***

1. The drawings are objected to as failing to comply with 37 CFR 1.84(p)(4) because reference character "9" has been used to designate both a soft universal cord and a connector portion. Corrected drawing sheets in compliance with 37 CFR 1.121(d) are required in reply to the Office action to avoid abandonment of the application. Any amended replacement drawing sheet should include all of the figures appearing on the immediate prior version of the sheet, even if only one figure is being amended. The replacement sheet(s) should be labeled "Replacement Sheet" in the page header (as per 37 CFR 1.84(c)) so as not to obstruct any portion of the drawing figures. If the changes are not accepted by the examiner, the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

### ***Specification***

2. The disclosure is objected to because of the following informalities: spelling on page 9, line 4 should apparently be "video".

Appropriate correction is required.

### ***Claim Rejections - 35 USC § 102***

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

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(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

3. Claims 1-2, 4-6, 9, 13, 19 and 21-22 are rejected under 35 U.S.C. 102(b) as being anticipated by U.S. Patent No. 4,982,725 to Hibino et al.

**In regards to claims 1, 19 and 21-22**, Hibino et al. disclose an electronically-bent endoscope, comprising: a motor 352 for generating driving force; a gear train 354 for transmitting driving force generated by the motor; a converting member 355 for converting the driving force of the motor to a back and forth movement of a bending operation member for bending a bending portion at the head side of an inserting portion; and a clutch mechanism 353 which is inherently capable of having a transmitting member for connecting and is connecting the gear train and the converting member, a thrust mechanism 737 for moving the transmitting member in the axial direction of the converting member (see definition of clutch: a coupling that connects or disconnects driving and driven parts of a driving mechanism, *WordNet* ® 2.0, © 2003 Princeton University) and a clutch operating member 350, connected to the thrust mechanism, for inputting instructions for connecting and disconnecting between the gear train and the converting member, the clutch mechanism connecting and disconnecting the driving force transmitted from the gear train to the converting member (see Col. 32, Lines 55 – Col. 33, Line 14 and Fig. 11). Furthermore, Hibino et al. disclose a sprocket 755 for converting driving force of the motor to a back and forth movement of bending operation wires 758 (see Col. 52, Line 65 – Col. 53, Line 38).

**In regards to claim 2**, Hibino et al. disclose an electronically-bent endoscope

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wherein the clutch mechanism is provided at the final level of the gear train and connects and disconnects driving force transmitted from the gear train final level to the converting member (see Fig. 11).

**In regards to claim 4**, Hibino et al. disclose an electronically-bent endoscope wherein the motor, the gear train, the converting member and the clutch mechanism are provided in a gearbox 5 (see Fig. 1).

**In regards to claim 5**, Hibino et al. disclose an electronically-bent endoscope wherein a pinion 1145 engaging with the gear train is press-fitted into a motor axis of the motor (see Fig 47).

**In regards to claim 6**, Hibino et al. disclose an electronically-bent endoscope further comprising a first detector 350 for detecting a rotating position of the converting member (see Col 32, Lines 51-63).

**In regards to claims 9 and 13**, Hibino et al. disclose an electronically-bent endoscope further comprising: a second detector for detecting a rotating position of the motor axis, a comparison unit for comparing information from the first detector and information from the second detector in order to detect the bending limit of the bending portion, and a warning unit for warning an operator based on the comparison result by the comparison unit (see Col. 66, Lines 41-63).

### ***Claim Rejections - 35 USC § 103***

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

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(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

4. Claim 3 is rejected under 35 U.S.C. 103(a) as being unpatentable over U.S.

Patent No. 4,982,725 to Hibino et al. in view of U.S. Patent No. 4,559,928 to Takayama.

**In regards to claim 3**, Hibino et al. disclose an electronically-bent endoscope but is silent with respect to wherein the final level of the gear train and the transmitting member are provided coaxially. Takayama teach of an analogous endoscopic motor-driven bending mechanism wherein the clutch means is provided in coaxial alignment with the actuation means (se Fig. 9). It would have been obvious to one skilled in the art at the time the invention was made to align the provide axial alignment of the final level of gear train and the transmitting member in the apparatus of Hibino et al. to order to provide a more efficient clutch mechanism as taught by Takayama and is well-known in the art.

5. Claims 8, 10 and 15 are rejected under 35 U.S.C. 103(a) as being unpatentable over U.S. Patent No. 4,982,725 to Hibino et al. in view of U.S. Patent Application Publication No. 2002/0087047 to Remijan et al.

**In regards to claims 8, 10 and 15**, Hibino et al. disclose an electronically-bent endoscope wherein the gearbox covers the gear train but is silent with respect to the gearbox being coated with a heat transmitting agent on the side facing toward the motor that also functions as a heat sink. Remijan et al. teach of an analogous endoscopic tool the housing 508 is formed of a stable material that maintains the dimensional location of lenses within the endoscope 500. Preferably, the material is aluminum. By forming the

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housing 508 from aluminum, the housing can act as a heat sink for the endoscope 500 (see paragraph 140). It would have been obvious to one skilled in the art at the time the invention was made to coat or make the gearbox of Hibino et al. with a heat dispersing material such as aluminum in order to prevent the buildup of heat within the endoscope as taught by Remijan et al. and is well-known in the art. Furthermore, using a gear made of aluminum due to its known properties of being lightweight, rigid and good in adherability as stated in applicant's specification, is not considered to be patentably distinct as aluminum's properties are well-known in the art.

6. Claims 14 and 17 are rejected under 35 U.S.C. 103(a) as being unpatentable over U.S. Patent No. 4,982,725 to Hibino et al. in view of U.S. Patent No. 6,554,766 to Maeda et al.

**In regards to claims 14 and 17,** Hibino et al. disclose an electronically-bent endoscope but is silent with respect to wherein the motor, second detector and clutch mechanism are detachable from the gearbox. Maeda et al. teach of an analogous endoscopic device wherein the motor unit 7 is capable of being removed from the holding unit 11a. It would have been obvious to one skilled in the art at the time the invention was made to make the motor, second detector and clutch mechanism detachable with respect to the gearbox in the apparatus of Hibino et al. in order to provide a device which can be more easily disassembled for sterilization and transportation as taught by Maeda et al. and is well-known in the art.

***Allowable Subject Matter***

Claims 7, 12, 16, 18 and 20 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

***Conclusion***

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

U.S. Patent No. 5,658,238 to Suzuki et al.

U.S. Patent No. 5,159,446 to Hibino et al.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Matthew J Kasztejna whose telephone number is (571) 272-6086. The examiner can normally be reached on Mon-Fri, 8:30-6:00.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Linda C.M. Dvorak can be reached on (571) 272-4764. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.



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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

MJK

*MK*

12/15/04



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